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DR. WEBBER'S REMARKS ON INSTINCT.

[Concluded from page 439.]

MENTAL impulse is the term I have assigned to Instinct, in its classification as a subdivision of the agency of the principle of life. This term is used, because all the actions of animals that can be attributed to this principle, taken in its widest extent as the guiding impulse of those movements performed for the avoidance of danger or the gratification of passions or wants, must be referred to mind. By mind, however, is not meant that complicated thing so denominated in man, nor even that to be found in the higher classes of animals, but simple mind in its narrowest extent, as described by Blumenbach, of which he considers the essential attributes to be "the powers of consciousness, perception and volition." The great characteristic of an animal is, that it has some organ, the action of which is obedient to volition, and usually performed in consequence of it. Now volition cannot be conceived of as acting to supply a want, save from a consciousness of that want and a perception of the appropriate material or means of gratifying it.

John Hunter thought that a stomach for the reception and digestion of food was a characteristic, or even *the characteristic*, of animals. If an animal were nothing but a stomach, still it would seem that it must possess the above-mentioned attributes of mind; for a stomach implies the consciousness or sensation of hunger, denoting the want of food. The admission of it into the cavity of the stomach implies volition, and most probably also a perception of what is proper to be so admitted, and the closing of the orifice is also an expression of the sensation of hunger being satisfied, that is, it is an expression of consciousness. Animals not far remote from such a structure as this, are to be found in some of the kinds of polypi and hydatids. Some of these have also the faculty of locomotion, which is a still more decided evidence of volition. They exhibit, however, no organs of sense like those of the higher classes of animals, and till within a very few years no observer had found it possible to discover in them any traces of the rudiments of a brain, or indeed of nerves, muscles or any definite structure whatever. Hence it was doubted by some whether they should in reality be considered as possessing any of the attributes of mind, since the brain and nerves are supposed to be the appropriate organs of mind, and it is difficult to conceive of the performance of any function without the appropriate organs of it. By such persons the actions of these animals were considered merely as

mechanical, like the effects of stimuli or particular excitements upon the organs of vegetables; such as the closing of the leaves of some plants upon the approach of night, the action of the flower of the *Dionæa muscipula*, or Venus's fly-catch, whence it derives its name. Modern researches have, however, in many tribes of these lower animals and animalcules, succeeded in tracing nerves and muscles, and even vestiges of a circulatory system; and though in many others these discoveries have not as yet been made, yet it seems not unfair to reason from what has been discovered to what may be. An animal which displays active motions without any appearance of muscles or contractile fibres, may, for aught that appears to the contrary, be equally well able to exercise volition over those actions and to experience sensations prompting that volition, without any appearance of nerves or brain. The most legitimate conclusion from such facts seems to be, not that such structures do not exist in the animals, but that their organization is different from that exhibited in other classes, and so constituted that they have not yet been recognized by the prying eyes of man.

Although many of the actions of the zoophytes, &c., might plausibly be ascribed to a mere living impulse, like that by which parts under the control of organic impulse perform their functions, upon the presentation of the proper incitements, yet some of them cannot be of this character. Tromby says that the Hydra perceives its prey at a distance in the water, and by means of its tentacula gives a motion to the water which will bring it within their reach. It also swallows insects so large, that both the mouth and the stomach must be greatly dilated to receive and retain them. It would seem that these actions must be the result of sensation and voluntary effort, as well as some others that might be mentioned.

In all those animals in which a brain or something appearing as a substitute, and a system of nerves, can be found, there seems to be no difficulty in attributing the actions of individuals to the influence of mind; and all the actions resulting from volition, when the volition is not the result of reasoning, habit, discipline, or imitation, but proceeding from some internal impulse, are to be considered as *instinctive*, and to this impulse itself has been appropriated the term instinct. Of the origin of this impulse, or the manner of its production, no more is known than of the origin of the impulse of formation. It is found only in living beings, and may therefore be justly attributed to the principle of life, as one of the modes in which that great principle manifests its action, as a modification of the vital impulse; and being also found only in beings possessing mind through which its agency is exerted, it may appropriately be called the *mental impulse*. Its general end is the same as that of the organic impulse, the nourishment, preservation and reproduction of the beings in whom it is found. It differs from the organic impulse in acting upon an individual as a whole, instead of acting upon one or another of the different systems of organs of which the individual is composed. It is also subservient to the organic impulse, ministering to it, in animals, the means by which, or the materials upon which, the various organs may act for the common good. Without this ministry the powers of the organic im-

pulse would be of no avail for the fulfilment of their end ; so that, though the one kind of impulse is subservient to the other, yet they are of equal importance in those beings in which both are found.

It is only in animals living in what is called a state of nature, that the extent of the power of instinct can be fully observed and appreciated. In those that have been domesticated, habit and discipline induce many actions not to be observed in many animals not under the protection of man, and this very protection, by superseding in many instances the necessity for the exercise of instinct, renders the display of it in these instances much less conspicuous or even almost imperceptible. In one of the definitions given in the beginning of this essay, it was stated, as a quality of the actions prompted by instinct, that they were done "without deliberation, and without having any end in view," though precisely adapted to procure some important end. In the other definitions given, this limitation is not to be found, and all the actions of brutes, by which they seek their own good, and avoid what is hurtful, are referred to instinct, which thus, independently of habit or discipline, is made the sole spring of all their actions, the sole power of determining their volition. With the limitation above assigned, this is not the case, but room is afforded for the other mental powers to act upon the volition, room for the exercise of judgment, comparison, memory, &c., with a given end to be attained by effort, to point out the effort necessary for this attainment, and to incite to the volition of it. In short, this limited definition implies that brutes are capable of performing actions for the attainment of a given end, of adapting their actions to this, consequently of thinking and judging, and therefore that they are in some degree possessed of reason. Many late writers have granted this faculty to brutes in a limited degree, and it is certain that many actions are performed by them, which, if performed by man, would without hesitation be ascribed to the agency of reason.

As an illustration of this, may be cited an incident related by Dr. Good among his instances of instinct. "When a wasp, in attempting to transport a dead companion from the nest, finds the load too heavy, he cuts off the head, and carries it out in two portions." In the actions here described, there seems to be a mixture of two different operating principles. The impulse which induces the wasp to carry out the dead body is instinct, making him intuitively know that it ought not to remain, that it is to be considered as a noxious matter, and therefore to be removed, though the end, the preservation of the healthiness of the nest, is not probably had in view. Upon this impulse, follows the attempt to remove it. This attempt results in the consciousness of want of power to do it ; then judgment and invention seem to come into play, and make the insect understand that a part may be carried more easily than the whole, and prompt to the division of the burthen in the point where it is most easily effected. Should a man divide a load, which he found too heavy for his strength, and carry a part at a time, it would undoubtedly be considered a manifestation of reason.

Again, some author relates having seen a wasp attempt to fly away with the body of a large fly. A slight breeze was blowing at the time,

and acting upon the spreading wings of the fly impeded the flight of the wasp, and even turned it and its burden over in the air. After several attempts to keep its balance, the insect settled upon a gravel walk, and cut off the troublesome wings, and then flew away with the body. Here it seems impossible but that the wasp should have perceived what was the occasion of the difficulty experienced at first, and what would be the appropriate remedy. This, too, in a man would be ascribed to reason, and there seems no propriety in ascribing it to any other principle in the insect, unless, for the sake of some technical distinction, it should be deemed proper to class the whole mental faculties of brutes under the name of instinct, and reserve for the mental faculties of man the proud sounding title of reason.

Such a classification was originally the prevailing one, and its character is exhibited in those definitions of instinct, which, without any limitation, define it as the guiding power of the brute creation. When, however, more accurate examination of the habits and actions of various races of animals, and more extended acquaintance with them, showed, that intelligence and thought were often unequivocally marked in some of them, the restriction already noticed was imposed upon the definition by a part of the observers, while others, still preferring to retain the old term in the full extent of its application, sought to obtain the same end by a division of instinct into two kinds, which they termed *blind instinct* and *enlightened instinct*, according as an action was done without an end in view or with one. Some, however, still persisted in assigning to brutes only the former, while they endowed man with the latter, making it synonymous with reason. This is but another instance of the confusion which has been made in the use of the term, and it does not seem wonderful, that, with such things before him, M. Dupont De Nemours should have proposed to the French Institute to drop the term altogether, as the only way of settling disputes and contradictions. This cutting of the knot, however, seems hardly necessary, as with a little patience it seems not impossible to untie it.

Those acquainted with the habits of brutes will find no difficulty in admitting that many of them are capable of both classes of action, those done without an end in view and those that are done with one. To the former of these classes it is that the term instinct properly belongs, in accordance with the derivation of the word. The limited definition, therefore, seems to be the most correct, and should be retained. What remains is to dispose properly of the actions of the other class—to determine whether they shall be ranked with the actions of man, as springing from the exercise of reason, or whether there is any difference between the reason exercised by brutes and that of man, that may render a distinct classification proper.

There seems to be some reason to suppose that there is such a difference, though the limits within which the present essay must be confined, will not admit of anything like a full discussion of the subject, and the remarks that can be made must be rather indications of the general course of reasoning and its results, than anything more thorough.

It will generally be found, setting aside animals intimately associated with man, and therefore coming under the influence of principles in some degree foreign to this question, that the ends had in view in the actions of animals, when they exercise this seeming power of reason, are those same ends, the attainment of which is the object of instinct, namely, the preservation of the individual or of the species, or more generally the real or apparent physical good of the individual in the gratification of some animal appetite. It will also be found that while instinct points to this general end as one desirable, yet that the ordinary natural powers of the animal are not able to accomplish the attainment of it easily, or at all, without some action indirect itself as to the end, but facilitating its attainment. Actions of this kind vary according to circumstances, and the employment and adaptation of them accordingly seems to be the proof of the reasoning nature of the faculty, since these afford evidence of observation and of connection of ideas, together with a practical application of the results.

These actions may usually be classed under the head of expedients, that is, contrivances adapted for the particular time and occasion, and growing out of the circumstances of the case, and not arising from any adoption of methodical proceeding, or implying any generalization of ideas, or the deduction of rules from particular facts previously observed. Another thing that may be considered as characteristic is, that when in these circumstances animals employ for the accomplishment of their purposes material substances as helps, other than those to which they are directed by particular instinct, they make use of those supplied by chance, with merely a selection of such as are fit for the purpose in some tolerable degree, with little or no alteration. They appear to evince no foresight but that of instinct, they do not provide materials for future contingencies, but merely for their regular natural wants, and they do not fashion implements for any present purpose or for any general use, or preserve for use on a future occasion such things as have answered their purpose once.

In such animals as are gregarious, and in those which live together in communities, more of this reasoning may possibly be found than in others, since among such there seems to be something like policy—some principle of action for the common good, union, order, and the submission of one to another in certain cases, and something like a distribution of justice, so far at least as in yielding precedence and distinction to greater ability, and the infliction of punishment upon offenders. Such things, at least, have been inferred by those who have made observations upon such animals.

In these instances, however, the leading guide is still instinct, and the exertions of reason are still subservient to it, as in the other case. Instinct here points not only to the good of an individual, but to that good as involved in the good of the number, or of the community, and hence renders this latter good an object to be obtained by such exertions of contrivance, or such use of expedients, as can assist, when the simple actions resulting from instinct may prove insufficient or not exactly suitable.

So, too, with animals constantly living in a state of domestication, and apparently from their great and general use and easy multiplication intended so to live. Their peculiarities of instinct are probably such as are suited to their commerce with man, and fitting them for usefulness to him, and to such instincts, as guides, may be referred many or most of the instances of apparently reasoning power that such animals exhibit, individuals of them in a remarkable degree.

In short, the term sagacity, generally applied to this excellence in animals, seems to be extremely well adapted to denote their kind of reasoning faculty, comprehending quickness of perception as to the relation of things, such as cause and effect, &c., and expertness in adapting means to an end, or making use, on any emergency, of such contrivances as may suitably promote the acquisition of an object. Sagacity seems to be properly the wisdom of brutes. They do not appear to possess reason in its proper and full meaning, but they have many of them much sagacity. This in its nature appertains to reason, or approaches it, so that it may be considered rational, and as employed by brutes, for the most part in subservience to instinct, may be well enough called *enlightened instinct*. If instinct be considered, as proposed, as one of the divisions of impulse, under the title of mental impulse, this sagacity or reasoning power of brutes, acting as it does in connection with it, may with great propriety be called rational impulse.

Reason differs from this in not being principally subservient to instinct, though to a great degree supplying its place in administering to the wants of the body. It is capable of generalization, of abstraction, of foreseeing the future from the experience of the past, and making provision for it. Its action is not confined to providing for and satisfying physical necessities; it has also to provide for the wants of the mind, for the gratification of tastes and longings after knowledge. It is employed not only with the things about an individual or the little community in which he lives, but with all places and all communities of man, with all things in the earth and in the heavens that surround it, with not only all the relations of man to the scenes and companions of his existence, but with his and their relations to the Being by whom all were created, with the relations of eternity as well as those of time. In its exertions for the attainment of objects, which with brutes are gained by obedience to the promptings of instinct or sagacity, the operations of reason are manifestly distinct from those of the rational impulse. A squirrel, to cross a river, does no more than get upon a chip and erect his tail to the wind. A man hollows out a canoe or builds a skiff, forms oars or paddles, or a mast and sail. He makes them not only so that they shall answer the present purpose, but the same purposes for the future, and that too in the best way—with the greatest comfort, security and speed. He moreover spends time and labor in ornamenting his invention. Even the savage will carve and paint his canoe and its paddles. In short, in the operations of reason for such purposes, there is a constant endeavor for improvement, for the attainment of some real or fancied excellence.

Mankind have instinct, but less perfectly than brutes; they have also.

sagacity, but in a greater degree and of a higher kind ; and finally, possessing pure reason, which brutes have not, and thus placed infinitely above them and at the head of all earthly creation.

Thus, in recapitulation, the motive forces of organized bodies may all be comprehended in three classes :—organic impulse, which directs the formation, growth, preservation and reparation of such bodies, independently of consciousness or volition ; mental impulse, or instinct, under two forms, viz., simple mental impulse, or simple and enlightened instinct or sagacity ; and, lastly, reason. If the substantial correctness of these views, derived mostly from portions of different writers on the subject, be admitted, a difficult matter, much entangled by the looseness and discrepancies of those who have treated it, will be presented in a more clear and definite shape, and one probably admitting of correction in the relative adjustment of its parts, and the doctrines contained under its different heads, without a renewal of the confusion in which the subject has long been plunged, and which Dr. Good's attempt to enlighten seemed in a fair way to darken still more. His definition has already found its way into at least two dictionaries of repute, and varying so much as it does from the before established use of the word, cannot but render the meaning of former writers, using the term, very obscure to those by whom these dictionaries may be used. Hence it has seemed important to invite attention to the subject, that if he be in error, it may be corrected before it shall have spread too far to render correction efficient. In the very work in which Dr. Good promulgated his own new view, he in many places is evidently influenced in his use of the term by older notions, and several passages are thus rendered obscure and contradictory. Still it would appear, from a careful examination of what he has said throughout his work, that his real understanding of the subject was not far different from the view given in this essay, though his notions were imperfectly developed, and still more imperfectly expressed.

LARGE DOSES OF QUININE.

Analysis of an Official Report to the Surgeon General U. S. Army, on the Use of Large Doses of Quinine in Diseases of the South, by R. S. Satterlee, M.D., Surgeon U. S. Army.

[Communicated for the Boston Medical and Surgical Journal.]

DR. SATTERLEE'S experience in the treatment of the various forms of disease incident to the southern sections of the United States, was chiefly acquired during the prevalence of Indian hostilities in the Cherokee nation and Territory of Florida, from 1837 to 1842. During the greater portion of this time he was on duty with U. S. troops either in the field, or at the military posts temporarily constructed in the Indian country. Here the different varieties of malarial disease were both frequent and severe ; chiefly intermittent, remittent and congestive fevers, diarrhoea, and chronic dysentery.

At the commencement of his southern service, Dr. S. employed the

quinine in the ordinary small doses (gr. j.—v.) ; but after an extensive trial of the remedy, in which the comparative effects of the large doses (gr. x.—xxx.) were fairly tested, he became convinced that, in cases of fever of ordinary severity, the medicine exerted a much happier effect when given in a single dose of sixteen grains—in intermittents about six hours before the expected chill, and in remittents at the close of a paroxysm, and repeated when necessary. A single dose of sixteen grains, administered a sufficient length of time before the expected paroxysm, he has rarely known to fail in arresting the disease when not unusually severe. When, however, a less time than six hours was allowed for the quinine to affect the system, it frequently failed in preventing the first paroxysm after its exhibition, but almost in every instance the second paroxysm was prevented, even without a repetition of the dose. The same quantity of the medicine given in divided doses, in the usual manner, could not be depended upon to arrest the disease in an equal space of time in the majority of cases in which it was tried.

Administered in this manner, the quinine was frequently combined with the preparations of opium, or mercury, when the use of these remedies was indicated ; and in cases of fever complicated with diarrhœa or dysentery it was given without regard to their presence, and was never followed by injurious effects. In the majority of cases the employment of quinine was preceded by evacuates, as required, but the existence of local inflammation was not always considered an obstacle to its use.

In congestive fever quinine was administered in much larger doses, and with decided benefit. In two cases of this disease at Palatka, East Florida, in the summer of 1841, attended by cold extremities, clammy skin, low delirium, and petechiæ, at the instance of Surgeon B. F. Harney, at that time Medical Director of the Army of Florida, thirty grains of quinine, combined with ten grains of calomel and two grains of opium, were given at one dose, and repeated every four hours until *two hundred and seventy* grains of quinine had been taken ; iced mint julep was freely given at the same time, and large sinapisms applied externally. In less than twenty-four hours reaction took place in both cases, and terminated in speedy and uninterrupted convalescence. The only effect of the calomel was to produce free bilious evacuations, and no pyalism followed.

Numerous other cases of a similar character were treated in the same decided manner, with an equally favorable result ; as soon as the quinine produced its impression the skin and extremities became warm—the pulse, from extreme and laborious depression, rose to a natural standard, the delirium disappeared, and quiet and composed sleep followed.

Dr. Satterlee states distinctly that although he has used quinine in large doses freely and extensively, he has never in a single instance witnessed any permanently injurious effects from its use. Given in this manner it sometimes produced temporary pain and giddiness in the head, and ringing in the ears, but never in a greater degree than when administered in the usual doses.

Far from inducing disease of the liver or intestinal canal, Dr. S. considers that the free use of quinine exercised a decidedly salutary influence

over these diseases. Constant exposure to the most intense malarial influence, and to repeated attacks of miasmatic fevers of every type and character, were amply sufficient to account for all the disease of this form which prevailed amongst the troops in Florida.

In all the *post-mortem* examinations which followed disease of the bowels, extensive inflammation and ulceration of the colon and rectum were observed, and rarely any alteration of structure in the small intestines, in the liver, or spleen.

Surgeon General's Office, June, 1845.

ON THE USE OF SANGUINARIA.

To the Editor of the Boston Medical and Surgical Journal.

DEAR SIR,—I have always employed the sanguinaria in the treatment of various disorders, and particularly during the last year; and I am satisfied its virtues are too much underrated by a majority of the profession. I have taken this opportunity to make some remarks upon it as a therapeutic agent, hoping to call the attention of at least a few to the subject; being confident that experience will greatly enhance its value in the opinions of those who make extensive use of it as a medicine.

Blood-root may be regarded as an acrid narcotic; possessing the qualities of an emetic, expectorant, contra-stimulant, diaphoretic, deobstruent, and emmenagogue.

First. I suppose its narcotic operation is produced by over-stimulating the heart's action, or rather by increasing it so much, that debility results from great acceleration of the circulation, and that this debility throws the system into a lethargic state very much resembling narcosis. It also excites the brain and quickens the senses; but not so forcibly as opium, while it increases the frequency and fulness of the pulse far more sensibly than opium, and for this reason cannot be resorted to as a soporific with any degree of safety in acute diseases. As an anodyne, *per se*, it is not worthy of trial, but its sedative operation upon the heart is very certain, as I shall attempt to show hereafter.

Secondly. Blood-root is too acrid a substance to be administered indiscriminately as an emetic; but in croup, catarrh, pneumonia, phthisis pulmonalis, jaundice, and other disorders, I have often resorted to it for this purpose with much advantage to my patients. I frequently combine it with pulv. ipecac., and the combination is a prompt and exceedingly easy emetic for old or young persons. In bronchial affections its acrimony renders it powerful in removing the phlegm which is very tenacious, and which it is the chief object to remove. During the incipient stages of croup the medicine is invaluable. I generally (in croup) combine it with antimony. R. Pulv. sang. Can., gr. x.; ant. tart., gr. iij.; aqu. bul., f 3 iij. M. Give a tablespoonful every ten minutes till it induces emesis. In the same complaint, if the patient is feeble, or very young, I give blood-root in conjunction with ipecacuanha. R. Pulv. sang. Can., gr. x.;

pulv. ipecac., gr. xv.; aqu. bul., f ʒ ij. M. Give a third part every fifteen minutes till vomiting is produced.

Thirdly. Sanguinaria is expectorant, and its use is not to be confined to chronic maladies, for its contra-stimulating qualities are indicated at the commencement of a pneumonia. In nauseant doses, even here, it is safe; but in smaller quantities it is a stimulant and would do hurt. In all cases the dose must be suited to the stage of the disorder. The two opposite states of the system, the *sthenic* and *asthenic*, must be kept in view; if the patient is in the first state, after bloodletting, &c. give large doses, but in the other case give the blood-root in small quantities; in this way we make the medicine a *contra-stimulant* or a *stimulant ad libitum*. Whoever will make trial of this, will satisfy himself that what has been stated is not all theory; that my assertions rest on facts, *facts* that cannot be controverted.

Fourthly. The contra-stimulant properties of sanguinaria are very prominent when given for a sufficient length of time in proper doses. I have used digitalis, but never found it to sensibly alter the pulse except in two instances. Dr. ——— informed me that during twelve years' practice he met with but one such case, while he met with many where the foxglove had induced great debility, leaving the pulse very quick and irritable. Digitalis is a good diuretic, but an untrusty and unsafe contra-stimulant. Its accumulative quality renders it objectionable, even if we could rely upon it as a controller of the circulation. Blood-root, on the other hand, is safe, and its sedative power over the sanguiferous system is wonderful. To have it exercise this power, it must be given to such extent that constant nausea shall be kept up; in a short time the excitement, which it at first causes, will disappear, and the pulse will gradually descend to a lower standard. R. Pulv. sang. Can., gr. xxx.; gm. acca., gr. x. M. Ft. pil. xv. Give one once an hour till the pulse is diminished in frequency. Or, R. Pulv. sang. Can., gr. xl.; gm. acca., gr. xv. M. Div. in chart. xvj. Give a powder once an hour.

Fifthly. It is diaphoretic. When combined with opium it is decidedly one of our best sudorifics. So many are the conditions of the system where an expectorant and alterative diaphoretic is required, that few medicines can be selected better adapted to these different conditions than the one under consideration. In jaundice, the following pill is of much service. R. Pulv. sang. Can., gr. x.; sulph. morph., gr. v.; pil. hyd., gr. xx. M. Ft. pil. x. One to be given once in six hours. In rheumatism, blood-root and opium are valuable remedies. R. Tinc. sang. Can., f ʒ.; tinc. opi., f ʒ ss.; spts. nit. dul., f ʒ ij. M. A teaspoonful for a dose, repeated *pro re nata*.

Sixthly. Blood-root possesses the properties of a deobstruent. I have seen its effects as such in cutaneous diseases. Tinea capitis is cured by its internal and external exhibition. Give a child ten drops of the tincture four times a day. Shave the head, remove the pus by soap and water, then apply the following ointment. R. Pulv. sang. Can., ʒ j.; axun. porc., ʒ j. M. Apply the ointment three times a day. I have cured two cases of *purigo* with blood-root; in one case I gave the tinc-

ture alone, and in the other instance antimony was administered with it. I have used sanguinaria in jaundice. I have a case at the present time, and am making free use of it in union with the blue pill; I think this combination better than either medicine alone.

If sanguinaria is employed in the treatment of fevers, less bleeding is required, and fewer cathartics necessary, than is generally indicated when this medicine is not administered.

Lastly. Sanguinaria is an emmenagogue. Amenorrhœa occurs under two opposite states of the system; and where *debility* appears to be the cause, it must, to be successful, be accompanied with some of the chalybeates. But if the obstruction depends on *plethora*, large doses of blood-root are required; given with aloes, in such habits, a short time before the menstrual discharge is expected, it will scarcely ever fail to produce menstruation. The following are some of the forms in which I have used this medicine as an emmenagogue. R. Tinc. ferri chlo., f ʒ j.; tinc. sang. Can., f ʒ ss. M. Dose forty drops three or four times daily. R. pulv. san. Can., gr. x.; pulv. aloë., gr. xx. M. Ft. pil. x. Give five pills daily.

I have given sanguinaria by itself to plethoric persons in doses sufficient to produce nausea, and continued it till the suppressed catamenia was restored; and if the disease is idiopathic, I believe the remedy will never fail. It will not be necessary to disturb the patient during her sleeping hours with medicine. I am very respectfully yours,

Lime Rock, R. I., June 23, 1845.

J. P. LEONARD.

CALOMEL A CAUSE OF MORTIFICATION

To the Editor of the Boston Medical and Surgical Journal.

SIR,—I noticed in the Journal of May 23th, an interesting case of mortification of the cheek and gums, related by Luther Rogers, M.D., at the conclusion of which, he makes two very important inquiries, viz.: was the mortification caused by calomel? and will calomel ever cause mortification in the mouth? I will give my opinion in answer to the last question, accompanied with some remarks relative to a case that came under my observation and care in July, 1841, while practising in Corning, Steuben County. I was called to consult with a man not very eminent in the profession, who gave me the following history of the case. Six days before I saw the patient (a boy about ten years old), he had been visited by the man above referred to, and was thought to be laboring under bilious colic. The doctor gave him of calomel, grs. xx., which purged him in four hours, producing much relief, though he continued to have some pain in his bowels, and in twenty-four hours he took ten grains more, which again proved cathartic but without affording much relief. From that time until the fourth day, he was treated for chronic inflammation, but took no more mercury in any form; nor any of the acids. In the morning of that day his attending physician noticed all of the symptoms peculiar to pyæmia, in its early stage. The inflammation and

swelling of the salivary glands rapidly increased, so that by the day following there was a general swelling of all the soft parts of the face usually affected by severe pyalism. On the next morning a small gangrenous spot, of a dark brown color, was discovered on the middle and inner surface of the lower lip, which rapidly spread until the seventh day, in the afternoon, when I saw him. The entire lower lip, the inside of both cheeks and surface of the tongue, were then completely gangrenous; the lower lip and tip of the tongue were wanting, having been destroyed by mortification. The parts had a dark brown sloughy appearance, with no distinct lines between the living and dead portions, the gangrene showing an evident disposition to extend.

The pyalism was on the increase, the little sufferer having a continual stream of viscid saliva running out of his mouth, entirely uncontrollable on account of the inflammation, swelling and loss of the lower lip, which rendered the patient a hideous, pitiable object. To these symptoms were added a quick, small, feeble pulse, and a congested state of the mucous membrane of the stomach and upper portion of the bowels; a moist, doughy skin; a very offensive peculiar fœtor of the mouth; great restlessness; a partial loss of consciousness and speech, with considerable prostration. I advised quinine, camphor, opium, &c.; and to the mortifying surfaces, nitric acid, nit. silver, p. charcoal, and fomentations where they could be applied, nourishing diet, &c., which alleviated his sufferings, but did not entirely arrest the progress of the mortification before death, which occurred on the twelfth day.

Without entering into an argument to prove that mortification can be produced by the sudden introduction of mercury in the human system, I will only say that I have reflected much upon the symptoms of the case here described, and cannot arrive at any other conclusion than that the excessive inflammation was produced by the mercury, and terminated in mortification and death. There was a high degree of inflammation of the parts previous to mortification. It is proper to observe that I examined a specimen of the calomel used, and found it of very inferior quality. The attending medical adviser induced the relatives of the patient to believe that he had *black canker*.

Yours truly,

Bath, Steuben Co., N. Y., June 23d, 1845.

S. BROWNELL.

THE TRUE AND FALSE IN MESMERISM.

[THE following is the conclusion of a series of numbers on the "Rise, Progress and Mysteries of Mesmerism," which have lately appeared in the London Lancet, from the pen of Dr. C. R. Hall.]

It is a curious fact in the philosophy of the mind, how prone we are to deceive ourselves, and then firmly to believe in the self-created deception, as if it were a truth not to be doubted. This is of daily occurrence where the conclusion arrived at is desired from ministering to our pleasure, interest or importance. Here, however, are cogent reasons for cherishing the self-deception until it becomes a matter of faith; but when

no such reasons can be assigned, it is quite enough that what demands our belief is marvellous, for it to be received with eagerness; quite sufficient that a man persuade himself what he has experienced must have happened without his volition, for him to feel satisfied that it was quite beyond his control. Often, however, a person does not himself believe what he wishes others to credit. So it usually is with the originators of popular delusions; but amongst their numerous followers many really feel convinced of the truth of the doctrines they profess.

That gentle passes, touches and friction, should so act on the nerves of feeling as to produce a quieting and composing effect, and, if continued, a degree of somnolency, and perhaps ultimately perfect sleep, is not surprising to one who has experienced the soothing influence of gentle rubbing of the palms, or of brushing or combing the hair. That this state may stop short of deep sleep, and that during the imperfect slumber *general* consciousness may be gone, and yet different parts of the nervous system be still susceptible of acting in answer to impressions made, is probable; and that acts of various kinds might in this way be called forth without rousing the patient to such general consciousness as would be necessary to enable him to recollect afterwards what had taken place, has nothing unreasonable in it. Hence, when a feeling allied to pleasure is excited by the gentle wafts of attracting mesmeric passes, we can understand how an emotional movement may respond, and the head or limb follow the direction of these wafts (*mesmeric traction*), without enough of general consciousness for the patient to be aware of what is going on. So, too, muscles may become rigid by reflex movement from irritation of the sensitive nerves; or convulsions may be excited in the same way.

By unconsciously directing his mind to the part on which the mesmeriser is operating, the patient, without being aware of it at the time, may materially heighten sensibility there, whilst the corresponding abstraction of mind lessens it elsewhere. As we know not all the laws of sensation, we cannot limit the effects upon sensation of any agent which certainly acts on and through the sensitive nerves. Consequently, what in a slight degree can diminish sensibility, may, when acting more forcibly, for anything we know, temporarily abolish it. Judging from experience, such a result is highly improbable, and therefore it must be proved a great deal better than it is at present, before we can assent to it, yet still there is nothing in such a result that would be in discordance with previous facts. On the contrary, in certain morbid states of the nervous system, we know that common sensibility is for the time removed; and should what the mesmerists assert on this head ultimately prove true, it will simply be a new fact—not like most of the mesmeric facts, both new and irreconcilable with others.

The evidence in support of so much in mesmerism would have been sufficient, had it been presented without admixture with so large a proportion of what is calculated to throw doubt on the whole. A work on the Natural History of Sleep is still a desideratum, and, properly executed, it would include all that is probable in mesmerism; as it is, we want unexceptionable evidence.

Should the probable facts of mesmerism prove to be the only real ones, will they support the inferences of the mesmerists? By no means. Capable of being induced by methods, and under circumstances entirely different, they cannot depend upon any special physical agent being given or withdrawn. They resolve themselves into phenomena of the nervous system, called forth by any means whatever, animate or inanimate, that can act to a sufficient extent upon that system.

We cannot doubt that mesmerism may have affected many cures surprising enough to the patients and their friends. What vaunted and accredited remedy or plan of treatment does not? Its efficacy, in this respect, no more proves the reality of any occult influence being communicated, than it proves the presence of such influence in a homœopathic billionth of flour of brimstone, in a holy well, or a Malvern spring. There can be no doubt that in all chronic diseases, abstraction of the mind, from perpetually dwelling on the disorder, a firm hope of recovery, and complete faith in the value of the means employed, will conduce very greatly to obtaining the desired result. The nature of the means is of less importance. Every remedy or plan that gains the confidence of the public is successful in its day: but no sooner is that day gone by, than the remedy loses its efficacy—the talisman of cure is broken. The cases which make and maintain the reputation of quacks of all ranks, both within and without the pale of the profession, are chiefly the dyspeptic, the bilious, the hypochondriacal. In these the disorder consists quite as much in a deranged nervous system, as in any actual disease of a given organ. And knowing how much the whole nervous system is under the influence of the mind—how languid when the mind is depressed; how brisk when the mind is elated—can we wonder that to exchange despondency, want of confidence, and constant looking inwards upon self, for hope, implicit faith, and attention, maintained by novelty, should occasionally produce the happiest effects on health? A medical man of eminence will often cure his patients much more rapidly by precisely the same means, than another of inferior note. With the former, his reputation acts upon the mind, whilst his remedies act upon the body. The mode by which mesmerism has chiefly performed its cures, reminds us of the weapon-salvers: the action on the mind is the judicious attention to the wound; the pawing, thumbing, tickling and gazing, are the salving of the weapon.

Besides its moral influence, however, in which I believe its asserted remedial power consists, if by mesmeric procedure we can induce refreshing sleep and modify sensibility, there can be no question but by these, added to its effect on the mind, much good may sometimes have been done. Has mesmerism any peculiar advantages over other and less equivocal and less mystical modes of producing these advantages? Proofs are yet wanting that it is superior to more ordinary methods of influencing the mind and the body—methods more congenial to the habits of the profession, and generally to the taste of the patient.

Without supposing or desiring that any importance will be attached to my mere opinions, yet, to prevent misapprehension, I here briefly re-

capitulate what are at present my own views on mesmerism. Of the alleged results of mesmeric processes, I believe there are

Proved—Quietude, composure, sleep.

Probable, but requiring confirmation—Traction, muscular rigidity, convulsions, heightened sensibility, diminished sensibility, double consciousness.

Possible, but not very probable—Insensibility to severe pain, for a given length of time, at pleasure.

Impossible, as far as anything can be so—Clairvoyance, intuition, prevision, community of thought, involuntary and complete subjection of mind to the mesmeriser.

And, lastly, I believe that we have not a shadow of evidence in support of the existence of any new agency, whether designated mesmeric, magnetic, occult, or by any other name.

In concluding this survey of mesmerism, the writer trusts that his readers have been as little as possible wearied with the details, and impatient of the truisms, contained in the foregoing papers. The details were indispensable to furnish accurate data; and inferences when opposed to, are best refuted by, truths so trite as to appear self-evident and superfluous. Common truths are the basis of common sense; and common sense will best refute the mesmerism of the mesmerists. Had an abler writer taken the trouble to lay bare the facts and the principles of mesmerism, to expose the emptiness of the former, the absurdity of the latter, and the incongruity of both, the present attempt had never appeared. Independently of every other effect, the inquiry is calculated to impress upon the minds of members of the profession the truth, that—

"Our reason was not vainly lent!
Nor is a slave but by *its own consent*."—**DRYDEN.**

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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BOSTON, JULY 9, 1845.

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*Salacine—the Surgeon General's Circular.*—It redounds to the general reputation and to the high medical character of our country, that the highest medical officer in the Government is distinguished for his zeal in the profession for which he was educated. In the following circular, issued by him, an ardent desire is manifested for determining an important question; and to accomplish this object, there is a minuteness of detail required, in the returns to be made at Washington, which must yield the most satisfactory results. We shall be happy to publish these results, whenever attainable. The following is the circular, signed by Thomas Lawson, Surgeon General.

"Sir,—The Medical Purveyor at New York has been directed to issue to those Military Posts at which miasmatic diseases are of frequent

occurrence, a supply of *salicine* (the active principle of the bark of the common *willow*)—a medicine which has been recommended by high authorities for its *febrifuge* and *anti-periodic* virtues.

"Inasmuch as the supply of the *sulphate of quinine* is, at best, precarious, and as, moreover, it may be diminished, at any time, by an interruption of our commercial relations with foreign nations, it becomes the duty of officers of the Government who are entrusted with the health of those engaged in the public service, to use their best endeavors to provide a substitute for a remedy so highly valued, and so universally employed.

"I have therefore deemed it advisable to submit the *salicine* to trial on a large scale, with the view of ascertaining to what extent it may be relied upon as a substitute for the *sulphate of quinine*, in a case of emergency, and accordingly I have to request that you will institute a fair and impartial trial of its remedial powers, in your practice, in all cases of miasmatic disease in which the administration of *quinine* may not be indispensably requisite—and in such other cases as you may think proper.

"You will forward to this office a special report of your observations on the subject, on or before the expiration of the current year, noticing particularly the following points, viz. :—

"1. The doses in which you have employed *salicine*—with their effects.

"2. The diseases, and conditions of the system, in which it has been administered—and with what effect.

"3. Whether you have found it more, or less, liable to irritate the stomach, than *sulphate of quinine*.

"4. Any bad consequences, you may have observed to follow its employment, attributable to the medicine.

"5. Any combinations you may have found to affect its activity; and what preparation of the system you have found necessary before its exhibition.

"6. Your opinion of its *modus operandi*.

"7. Its value as a remedy, as compared with *sulphate of quinine*, and other medicines of similar properties.

"8. Brief and concise notes of cases in which it has been employed in your practice—as numerous as practicable.

"It is proper to add, that as the profession at large will, doubtless, be interested in the results of these observations, they will probably be given to the public, in such form as will be most creditable to the observers."

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*Medical Society of Tennessee.*—On the 7th of May, the 16th Annual Meeting of this Society was held at Nashville. A. H. Buchanan, M.D., of that city, is still president. The first day appears to have been passed in organizing for business. It will be recollected that this society is distinguished for the energy of its public proceedings. No mealy-mouthed speeches are ever made, or apologies received unless there is a valid reason for them. Dr. Manlove read a case of gastrotomy of a remarkable feature, which was voted to be published in this Journal, on motion of Dr. Richardson, for which he will please accept our thanks. Dr. Roberts read a history of an epidemic erysipelas that prevailed in Columbia, which was ordered to be transmitted to the Western Medical Journal. Dr. Sandek transmitted an essay upon the abuse of calomel, venesection and blistering. This is a paper which some of the northern practitioners would

like to peruse. Second day—Dr. Stith was called upon a second time, but being absent and failing to read an essay, he was fined \$10. We presume he will never fail again. Drs. C. Smith, Esselman, Holland, Franklin and R. C. K. Martin, were again called upon for reports of cases—but being away, were each mulcted in the sum of \$2 a-piece, which was according to the laws of the Society, made and provided. Dr. Buchanan delivered a dissertation on the difficulty of acquiring accurate knowledge of practical medicine. A premium of \$50 is to be awarded to the author of the best essay on some medical subject, to be submitted to the examination of a committee, by the next annual meeting. The Society finally decided that *Scrofula* should be the subject of the prize essay, and manuscripts may be sent to Dr. Felix Robertson, Nashville Tenn., post paid, before the first Monday in March next. Dr. Winton next addressed the Society on "The improvements and discoveries made in medical science by American physicians." This paper should also be published. Dr. B. W. Avent, of Murfreesboro', was appointed orator for 1846.

Any one who reads the annual doings of the Tennessee Medical Society, will agree with us, we think, in saying that it is without a rival in energy. Nothing retards the onward march of the members. If any of them happen to be absent, the constitution provides a way of securing punctuality in future, by assessing a tax, instantan, not likely to be forgotten. So it is in regard to delinquents, previously appointed to perform some special service; if the manuscript is not forthcoming, the fine must be. Dr. Buchanan, the President, is an able man, and is associated with a body of medical gentlemen of great moral worth and scientific acquirements, who are calculated individually to give character to any interest.

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*New Hampshire Asylum for the Insane.*—The third report from the Trustees and Medical Superintendent, recently published, shows that continued success attends the institution. The board of visitors pay a merited compliment to Dr. Chandler. "Well fitted by nature and experience," says the report, "for the arduous and delicate duties of his office, he seems to have made the care and treatment of the insane a diligent study, and devotes to their relief, the energies of his benevolent and intelligent mind, with an interest and assiduity well calculated to insure that success which has been the actual result of his labors and worthy of the highest commendations." For new buildings, the past year, \$2,622 23 were expended; and for support of patients and payment of debts of the Asylum, \$10,538 75. The liberality of the Legislature, in sustaining an institution of such value to the community, is noticed with becoming gratitude. When a member of that body withholds his vote in favor of any measure having for its object the perpetuity and general good of the noblest charity in the Granite State, may he never be punished in misfortune by being denied benefits so great as those enjoyed within its portals.

From May 31, 1844, to May 31, 1845, 42 males and 46 females were admitted. The whole number of patients, within the last twelve months, has been 158—of which 76 remain in the Asylum at present.

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*Orange County, Vermont, Medical Convention.*—On the 17th of June the members of this association assembled at Chelsea, Vt. Each one

was called upon for a case occurring in his own circle of practice, which was an excellent idea in those who originated the plan. Dr. J. N. Stiles delivered an address that is represented to have drawn forth a long discussion, but no mention is made in the report, of what it was about. Dr. N. W. Thayer was selected to read a dissertation on peritonitis, at the next meeting. A resolution followed that each one should be requested to secure as many mineralogical specimens, within his own section, as he conveniently can, for the Society, towards building up a cabinet. Dr. P. C. Chandler was elected president; Dr. E. C. Worcester, Vice President; and Dr. S. R. Morse, Secretary.

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*Dickson's Practice.*—A wit, in describing a Hebrew book, said, "the beginning thereof is at the end." A second volume of *Essays on Pathology and Therapeutics, &c.*, by Samuel H. Dickson, M.D., Professor of the Institutes of Practice in the Medical College of South Carolina, was received last week; but where is Volume I.? We are gratified with the appearance of the last part—yet it is impossible to understand the author without the whole text. We shall suspend further remarks for the present, hoping that the mystery of the publication of the last part first, may be explained.

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*Bartlett's Medical Philosophy.*—Through the Lexington (Ky.) Inquirer, the public is made acquainted with the name of the reviewer of Dr. Bartlett's Philosophical Essay. It proves to be Mr. James S. Allan, of Winchester. The review, which found favor with literary judges, independently of medical men, appeared in the June No. of the Literary Messenger, which we have not yet seen. By the unremitting attentions of Wm. W. Crump, Esq., of Richmond, Virg., that ably-conducted periodical has been regularly transmitted, but the one containing the very paper of all others which would interest us, is perhaps still on the way.

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*Cotton Mattresses—Hare-lip, &c.*—The following note is from a respectable physician in the vicinity of Boston.

MR. EDITOR,—Your last Journal has a commendation of cotton mattresses. I am glad to learn that they are manufactured and may be had in the vicinity, as I have for some time been wishing to procure some for family use. It is, however, a mistake that they are a new invention, for I slept on them many years ago in the Southern States, where they are extensively used. They are very cheap, and in warm weather, especially, are very comfortable.

Your extract from the Western Lancet, in regard to hare-lip among the blacks, is an interesting inquiry. I have resided from three to four years in different States at the South, as many more at the Sandwich Islands, and have visited the Society Islands, and have no recollection of ever having seen a case of hare-lip among persons of dark complexion. If this deformity is peculiar to the whites, it certainly is an interesting subject for philosophical inquiry.

C.

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*Baths and Wash-houses.*—An experiment has been made at the Eastern Asylum for the Houseless Poor, which has most satisfactorily proved that



the very lowest of the poor will gladly avail themselves of facilities for personal cleanliness. On the evening of March 29, the apparatus, consisting of a boiler, and tanks, with two baths (convertible into vapor baths), six wash-tubs, and a drying closet, through which a draught of hot air is driven with great velocity, was first used. At first there was some reluctance on the part of the inmates to use the baths, but as soon as they had felt the refreshment of the warm water and clean clothes, they eagerly availed themselves of it. During the first five days 86 persons bathed and washed; during the last five (the apparatus having been used nineteen days together) the number was 391—the total being 987. The improvement effected in the personal appearance of the inmates far exceeded all expectations; many a countenance became pleasing which before was disgusting, and no doubt was left that soap and warm water could work wonders with the poor.—*London Times*.

*Instruction of Midwives in Paris.*—According to the new regulations regarding the instruction of midwives in Paris, it is required that they shall present testimonials of good character, be at least 18 years of age, and be able to read and write correctly the French language, before they can be admitted to the clinical lying-in hospital. It is only after having diligently attended this institution for twelve months, and taken two full courses of lectures on the Theory and Practice of Midwifery, that they can present themselves as candidates for the degree.—*Southern Medical and Surgical Journal*.

*Medical Miscellany.*—Yellow fever, the frequent scourge of many parts of South America, was raging at Vera Cruz, at a late date.—Dr. Lewis, of Boston, amputated the whole arm, last week, embracing the scapula and clavicle, having first taken up the subclavian artery. The operation was rendered necessary in consequence of a terrible accident by machinery. Unfortunately the patient died of the injuries he had received.—Twenty deaths, by smallpox, occurred in New York, week before last. The disease is showing itself more or less all over the country.—A coroner's jury decided in New York that a child, 4 months of age, died in consequence of the effects of excessive doses of antimonial wine.—A prize of 20 guineas was lately awarded in London, by the Society for the Improvement of the Insane, for an essay on puerperal mania.

*TO CORRESPONDENTS.*—Additional testimony respecting the use of large doses of quinine, a letter from Dr. Smilie on artificial petrification, remarks on dentistry by Dr. Clough, together with papers already acknowledged, will receive early attention.

*MARRIED.*—At New Haven, Conn., William Hotchkiss, M.D., of New York, to Miss Cornelia A. Hillhouse.

Number of deaths in Boston, for the week ending July, 5, 43—Males, 22; Females, 21. Stillborn, 4. Of consumption, 8—accidental, 1—dropsy on the brain, 6—inflammation of the bowels, 3—canker in the bowels, 1—scarlet fever, 2—typhus fever, 2—hooping cough, 2—teething, 2—inflammation on the brain, 1—croup, 1—infantile, 2—abscess, 1—liver complaint, 1—hemorrhage, 1—brain fever, 1—apoplexy, 1—disease of the heart, 1—old age, 1—intemperance, 1—child-bed, 1—debility, 1—drowned, 1.

Under 5 years, 22—between 5 and 20 years, 4—between 20 and 60 years, 14—over 60 years, 3.

*Vivisections, &c. in Paris.*—Longet's lectures on the Anatomy and Physiology of the Nervous System, with vivisections, are extremely interesting. He has devoted himself to this branch of science for several years, and at this time is unequalled in it. His demonstrations are admirable, and by varying his experiments in almost every possible manner, he has made some discoveries, and exposed the errors of Magendie, Marshall Hall, Charles Bell, and others. I saw him demonstrate the existence of an electrical current in the muscular tissues in the following manner:—He stripped the skin off the inferior extremities of some frogs, decapitated at the moment, then cut the thighs off close to the body, separating them from the legs, by carefully disarticulating the knee-joint. Five thighs thus prepared, were arranged in a semicircular manner, with the lower end of one, stuck in among the muscles of the upper extremity of another, and so on. The battery being thus completed, he used bits of moistened paper or wire for conductors, and by operating on the sciatic nerve of another frog, contractions were produced, precisely similar to those caused by galvanism. This current runs from the centre towards the extremities. These experiments, though cruel, are extremely interesting. Most of them are easy of performance, and with proper precautions, are highly satisfactory and conclusive. Longet's dissections of the brain, spinal marrow, and nerves, are superior to any I have seen. His work on this subject is the best extant. \* \* \* \* \* Foville is publishing a work on the Anatomy, Physiology and Pathology of the Cerebro-spinal System of Nerves, in three volumes, with an atlas of twenty-three plates. The first volume and the atlas are published. It is said to be an excellent work. \* \* \* \* \* Ricord is publishing his *clinique*, accompanied by fifty or sixty plates, in quarto, colored. The work is said to be nearly completed, and will cost ninety francs. It is said he has changed his opinions, in some respects, since the publication of his former work.—*Letter from J. McLESTER, M.D., of Georgia, in Southern Medical Journal.*

*Hippuric Acid in the Urine in Chorea.*—The urine of a female, 13 years of age, who was suffering from chorea, was examined by M. Pettenkofer. The urine was evaporated, the residue acted on by alcohol, and this again evaporated; the extract, treated with muriatic acid cold, yielded a large amount of crystals of hippuric acid. A larger proportionate amount was given by the urino-sanguinis. One thousand parts of urine left 40.668 solid matters, of which 31.251 were soluble in alcohol, 9.417 insoluble. The soluble matters consisted of urea, alkaline chlorides, hippurates and animal matter; the insoluble part, uric acid, sulphates, and phosphates. The 40.668 solid residue left, upon incineration, 10.599 of ashes, containing 30 per cent. of alkaline carbonates. Calculating from these data, M. Pettenkofer says, the urine contained 1.2886 per cent. hippuric acid, the solid contents 25.8 per cent. As the disease disappeared, the amount of hippuric acid gradually diminished.—*Annalen, Oct. 1844.*

*New Medical Books in London.*—On Diseases of the Jaw, with a brief outline of their Surgical Anatomy and a description of the Operations for their Extirpation. By Richard O'Shaughnessy.—Remarks on the efficacy of Matico as a Styptic and Astringent; with additional cases. By Thomas Jeffreys, M.D.